



Faculty of Technology Management and Technopreneurship

**THE INFLUENCE OF INTERNAL AND EXTERNAL FORCES IN
ADOPTION OF e-CRM IN MELAKA AND JOHOR SMEs**

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Master of Science in Technology Management

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**THE INFLUENCE OF INTERNAL AND EXTERNAL FORCES IN ADOPTION
OF e-CRM IN MELAKA AND JOHOR SMEs**

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in fulfilment of the requirements for the degree of Master of Science
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DECLARATION

I declare that this thesis entitled “The Influence of Internal and External Forces in Adoption of e-CRM in Melaka and Johor SMEs” is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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APPROVAL

I hereby declare that I have read this thesis and in my opinion this thesis is sufficient in terms of scope and quality for the award of Master of Science in Technology Management.

Signature :

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Date :

DEDICATION

I dedicated this thesis to my beloved father and mother, Mr. Md Nasruddin Ngah and
Mdm. Rokiah Ayop and also to my lovely family.

ABSTRACT

Information Technology (IT) plays a significant role in today's business competition. A prominent role that is, it helps firms to manage relationships with customers effectively. Today's online consumers have more complex needs and much higher expectations than ever before. Online business communities are fast emerging as new organizational tools for customer relationship management, marketing, and brand management, also for a multitude of other purposes such as building strong online trust and reciprocity. To support this capability, Customer Relationship Management (CRM) is evolving into Electronic Customer Relationship Management (e-CRM) and has become the latest paradigm in the world of Customer Relationship Management. In Malaysia, the used of e-CRM in business are still scarce even though government has concerted the effort to promote technology adoption among Malaysian Small and Medium Enterprises (SMEs). The lack of understanding of what factors and how many factors influenced the adoption of e-CRM by Melaka and Johor SMEs makes it difficult for government to encourage Malaysian SMEs to use e-CRM applications and to participate in the e-marketplace. Thus, the question that have been proposed are to determine the internal and external forces associated with the adoption of e-CRM, to what extent do the factors influence the adoption and how can e-CRM practices enhanced the performance of SMEs. A survey was conducted using a self-administered questionnaire and the data were collected from SMEs in Melaka and Johor. The findings revealed that managers' attitude and innovativeness played a vital role in understanding the adoption of e-CRM applications in Malaysian SMEs. In conclusion, the results showed that seven of the factors influence the adoption of e-CRM applications while one factor found not influence the adoption. Besides that, customers and suppliers are in need of information by easy internet access through various devices and platforms such as mobile devices, laptops and desktop personal computers. Thus, the uses of e-CRM improved and increased communication between organization and customers, making it an important tool for all SMEs. For the future recommendation, government need to encouraged SMEs to implement e-CRM in their business to be able to penetrate in the international market periodically and consistently.

ABSTRAK

Teknologi maklumat (IT) memainkan peranan penting dalam persaingan perniagaan pada masa kini. Peranan yang menonjol itu adalah ia membantu untuk menguruskan hubungan dengan pelanggan lebih efektif. Pelanggan dalam talian pada masa kini mempunyai keperluan yang lebih kompleks dan jangkaan yang jauh lebih tinggi berbanding sebelum ini. Komuniti perniagaan dalam talian muncul dengan cepat sebagai alat organisasi yang baru untuk pengurusan perhubungan pelanggan, pemasaran, dan pengurusan jenama, ia juga muncul untuk pelbagai tujuan lain seperti membina kepercayaan dan timbal balik yang kuat dalam talian. Untuk menyokong keupayaan ini, Pengurusan Hubungan Pelanggan (CRM) telah berkembang kepada Pengurusan Hubungan Pelanggan Elektronik (e-CRM). e-CRM telah menjadi paradigma terkini dalam dunia Pengurusan Hubungan Pelanggan. Di Malaysia, penggunaan e-CRM dalam perniagaan masih kekurangan walaupun kerajaan telah menyatukan usaha untuk mempromosikan penggunaan teknologi di kalangan perusahaan-perusahaan kecil dan sederhana (PKS) Malaysia. Kurangnya pemahaman tentang faktor-faktor dan berapa banyak faktor yang mempengaruhi penerimaan e-CRM oleh PKS Melaka dan Johor menjadikan sukar bagi kerajaan untuk mengendalikan PKS Malaysia untuk menggunakan aplikasi e-CRM dan untuk mengambil bahagian dalam e-market. Oleh itu, persoalan yang telah dicadangkan adalah untuk menentukan kekuatan dalaman dan luaran yang berkaitan dengan penggunaan e-CRM, sejauh mana faktor-faktor mempengaruhi penggunaan dan bagaimana e-CRM dapat meningkatkan prestasi (PKS). Satu kaji selidik telah dijalankan dengan menggunakan soal selidik sendiri dan data telah dikumpul dari PKS di Melaka dan Johor. Penemuan mendedahkan bahawa sikap dan inovasi pengurus memainkan peranan penting dalam memahami penggunaan aplikasi e-CRM di PKS Malaysia. Kesimpulannya, keputusan menunjukkan bahawa tujuh faktor-faktor itu mempengaruhi penggunaan aplikasi e-CRM manakala satu faktor didapati tidak mempengaruhi penggunaannya. Di samping itu, para pelanggan dan pembekal memerlukan maklumat melalui akses internet yang mudah melalui pelbagai peranti dan platform seperti peranti mudah alih, komputer riba, dan komputer peribadi desktop. Oleh itu, kegunaan e-CRM bertambah baik dan meningkatkan komunikasi antara organisasi dan pelanggan, menjadikannya alat penting untuk semua PKS. Bagi cadangan masa depan, kerajaan perlu menggalakkan PKS melaksanakan e-CRM dalam perniagaan mereka untuk dapat menembusi pasaran antarabangsa secara berkala dan konsisten.

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LIST OF ABBREVIATIONS

SMEs	-	Small and Medium Sized Enterprises
e-CRM	-	Electronic Customer Relationship Management
CRM	-	Customer Relationship Management
IT	-	Information Technology
TPB	-	Theory of Planned Behavior
TOE	-	Technology-Organization-Environment
DOI	-	Diffusion of Innovation
ATTD	-	Attitude
INNO	-	Innovativeness
SIZE	-	Firm size
TECX	-	Technology expertise
COPA	-	Compatibility
PADV	-	Perceived advantage
COPP	-	Competitive pressure
CUSP	-	Customer pressure
<i>df</i>	-	Degree of Freedom
Sig.	-	Significant
<i>p</i>	-	Significant value

LIST OF PUBLICATIONS

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CHAPTER 1

INTRODUCTION

1.1 Research background

One of the strategic resources for sustaining competitiveness among firms regardless of their sizes is the adoption of technology. Technology has been recognized as one of the competitive resources and strategies to maintain organizational effectiveness. In today's dynamic business environment, an organization that has the ability to adopt technology would enhance their competitiveness. Furthermore, technology is shown in new products, processes, and systems including the knowledge and capabilities needed to deliver functionality that is reproducible. The breakthrough of information technology (IT) has significantly impacted the way business is conducted (Sophonthummapharn, 2008).

By using an appropriate IT, it can be clearly seen in today's business competition that those who have precise information are likely to prevail over their rivals. Moreover, information technology provides a number of advantages because it facilitates interaction between individuals. According to Sophonthummapharn (2008), IT also provides tools which can manage data or information efficiently and effectively for the firm to acquire stronger business competency.

This is particularly relevant to Small and Medium Sized Enterprises (SMEs) as the adoption of technology would enable them to compete with their larger counterparts. Based on previous studies by Tidd and Bessant (2014), the successful SMEs were those who innovated by adopting technologies that create a dynamic capability to have an edge over competitors all the time. Innovation has become a priority in the competitive business

environment. Innovation is widely regarded as one of the most important sources of competitive advantage for the firm to retain its sustainability in the changing environment. Innovation has become one of the key success factors for the firm to survive (Jimenez and Sanz-Valle, 2011).

The importance of SMEs contribution to the national and global economy is clear which is as a backbone of the economy in a country. However, failure to adopt the technology might threaten their future survival. Therefore, the adoption of information technology in SMEs is much slower than large companies. The definition of SME may vary amongst countries but it is generally defined by the number of employees. In Malaysia, SMEs are defined as “firms with annual sales turnover not exceeding RM50 million or full-time employees not exceeding 200 persons” and it represents 99% of total business establishments in Malaysia contributing up to 36.3% of GDP, 65.5% of total employment and 17.6% of total exports (SME Annual Report, 2015).

Customer Relationship Management (CRM) is very important when organizations are transforming from a product or brand-centric marketing to relational-centric approach (Khalifa and Shen, 2009). CRM is a corporate strategy that emphasizes the creation and maintenance of the relationship with its customers (Ahn et al., 2003). Customers are the key factor for companies to survive in the global market. It takes up to five times more money to acquire a new customer than to make an existing customer to make a new purchase. Nowadays, through the innovation of technology, electronic customer relationship management (e-CRM) has become the latest paradigm in the world of CRM. E-CRM is essentially, managing customer relationships by electronic means (Ismail and Hussin, 2016). It combines people, processes and technology, and seeks to understand the buyer-seller relationship. Currently, e-CRM is increasingly used by companies to enhance their

electronic marketing capabilities. Muro et al (2013) assert that e-CRM is a strategic technology-centric relationship marketing business model, combining traditional CRM with e-business marketplace applications.

From marketing's point of view, customer relationship is the key factor in determining the business's success or failure. It has been suggested that companies that focus on their customers' needs and wants are in a better position to achieve long-term success compared to those which do not (Kotler, 2000). Better customer relationships lead to customers' loyalties which eventually lead to profitability. Loyal customers tend to buy more and stay with a preferred company longer than non-loyal customers. Customers have hidden or overt preferences that marketers can reveal by building a learning relationship.

The goal of e-CRM systems are to improve customer service, retain customers, and to aid in providing analytical capabilities (Fjermestad and Romano, 2003). Furthermore, it is the infrastructure that enables the delineation of products and increases in customer value, and the correct means to motivate valuable customers to remain loyal.

1.2 Problem statement

SMEs have to deal with various challenges such as lack of financial capability, market knowledge, infrastructure, technology and innovation, human capital, business competition and government policies that hinder their prospects in the international market (Hashim, 2012). Based on previous studies in Uganda, SMEs are grappling with inadequate IT penetration, lack of awareness of the potential of ICT to improve business performance, limited skills to use ICT to promote their business, inadequate access to information and markets and costly telecommunication (Olupot et al., 2014).

Olupot and Mayoka (2013) proposed a framework for the adoption of e-CRM for Uganda SMEs which assumed the existence of two organizations. Other than that, they conducted a short training with 12 employees including the Project Manager in order to familiarize them with the constructs of the proposed framework and they will be able to use it effectively. The result of that short training showed that most of them were not knowledgeable about e-CRM because they even had no ideas about its existence.

The adoption of web-based CRM with the localization technique of batik industrial had helped the Micro Small and Medium Enterprises (MSMEs) batik industry in Pekalongan in Indonesia improve its competitiveness with other companies as well as explore a new wider market (Nugraha et al, 2013). The implementation of CRM practices had improved organizational performance by provided important customer information in Malaysian SMEs food manufacturing industry (Mohamad et al., 2014). The result shows that three dimensions of CRM practices (key customer focus, knowledge management, and relationship marketing) were the key customer focus and relationship marketing. It was an important element in increasing organizational performance in firms.

However, the adoption of e-CRM by SMEs management is scarce. According to Abdullah and Shamsuddin (2010), there is no clear indicator of successful adoption even though the government has concerted the effort to promote technology adoption among Malaysian SMEs. Most of the studies focus on larger firms while little attention is given to SMEs (Jayachandran et al., 2005; Rebolledo et al., 2005). This has resulted in insufficient knowledge in predicting and explaining the behaviors of SMEs. Therefore, there is a lack of understanding of what factors and how many factors have influenced the adoption of e-CRM by Malaysian SMEs. In research conducted by Hashim (2012) found that small and medium entrepreneurs in Malaysia have implemented e-commerce as one of the e-CRM

tools in their business. By utilizing e-commerce to manage their business performance, SMEs in Malaysia are able to increase their competitive advantage in facing an increasingly competitive market environment.

The adoption of e-CRM by SMEs has received little attention from scholars and has not been well researched. It is expected that e-CRM has a great potential for SMEs and will lead to sustainable competitive advantages in the e-marketplace. However, it is not clear whether or not SMEs are aware of this particular technology. Their attitude and willingness to adopt e-CRM are also inadequately understood. It is also unknown which factors that affect and influence them in adopting e-CRM application. This lack of information and data makes it difficult for government and private agencies to encourage SMEs to use e-CRM applications and to participate in the e-marketplace.

1.3 Research questions

Based on the previous literatures, this study is to examine concerns related to the adoption of e-CRM among SMEs. These concerns are expressed in the following research questions:

1. What are the forces associated with the adoption of e-CRM in Malaysian SMEs?
2. To what degree do the factors influence the adoption of e-CRM amongst Malaysian SMEs?
3. How can e-CRM framework practice enhance the performance of Malaysian SMEs?

1.4 Research objectives

Following the research questions, the research objectives for this study are developed:

1. To determine the internal and external forces associated with the adoption of e-CRM.
2. To determine the degree of influencing factors in the adoption of e-CRM in Malaysian SMEs.
3. To develop a framework for e-CRM adoption amongst Malaysian SMEs.

1.5 Scope of study

The scope of this study highlights the adoption of information technology in SMEs. There is a connection between these two entities that provide a better communication and interaction between firms and customers. In addition, this study also discusses the internal and external forces that influence the adoption of e-CRM in Malaysian SMEs based on the proposed research frameworks.

1.5.1 Information Technology

Information technology or IT is a common term and used in a broad way to describe a collection of several practices in information and communication technology (ICT), information system (IS), and management of information system (MIS). Sophonthummapharn (2008) states that IT research covers computer's software and hardware of design, development, implementation, support, and management of computer-based information systems. IT now best described as the expected convergence of the computing, media, and telecommunications industries and its technologies. IT is the

application of computers and telecommunications equipment that is electronically converted, store, retrieve, display, control, transmit and manipulate data, (Daintith, 2009) often in the context of a business or other enterprise.

1.5.2 Small and Medium Sized Enterprises (SMEs)

Small and Medium Sized Enterprises (SMEs) are considered as the backbone of economic activity in Malaysia and has become the major driving forces contributing to economic development. This research uses a definition from SMECorp (2016), that defines SMEs based on quantitative criteria according to size, a number of full-time employees and their annual sales turnover which is be categorized into three categories: (i) microenterprise, (ii) small enterprises and (iii) medium enterprises.

1.5.3 Electronic Customer Relationship Management (e-CRM)

CRM is the strategic use of information, process, technology, and people to manage the customer's relationship with one's company regarding marketing, sales, services, and support across the whole customer life cycle (Kincaid, 2003). When the Internet was commercialized in the mid-1990s, the infrastructure of the CRM market had changed. The Internet allows CRM vendors and clients to interact and communicate with each other more efficiently. The internet provides the vehicle to deliver CRM applications via the Web, and as business services are moved to the web, e-CRM takes the center stage (Oumar et al., 2017). Electronic customer relationship management (e-CRM) is a relatively new area of research heralded as the new paradigm of marketing (Thuo et al., 2011). Sophonthummapharn (2011) highlights that e-CRM was part of a comprehensive CRM strategy and implementation. He also emphasizes that e-CRM covered much more than customer service for visitors to websites. Globally, the adoption of e-CRM and its rising